Designing for Racial Impartiality: The Impact of Relocating Host Photos on the Airbnb Website

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Abstract

A growing body of evidence from research studies, as well as recent media reports, has shown that the online sharing economy is no less prone to racially charged practices than in-person economic interactions. When it comes to corrective measures, however, we know little about what strategies can mitigate racial discrimination on these newly evolving platforms. This paper contributes to the literature by testing a widely held perception that, in an online marketplace, making racial identity less prominent (as opposed to completely eliminating it) will reduce discrimination. I evaluate a recent website redesign policy of Airbnb that reduced the salience of racial identity by delaying the exposure of guests to hosts' profile photos. I analyze daily bookings and price data for hosts from four U.S. cities. I find clear evidence of a narrowing of the racial bookings gap among New York City (NYC) hosts. Specifically, I find that the black-white gap in log-expected bookings reduced by 0.09. This finding suggests that the black-white ratio of average bookings increased from about 0.71 to 0.79, which is closer to the non-discrimination proportion of 1. The reduction in racial gap is robust to comparing black hosts with white hosts, non-black hosts from all races, and hosts whose profile photo did not show their face. The reduction in racial gap was greater

for male hosts and hosts that listed a shared apartment unit. While the effect is large and statistically significant in NYC, it is less so in the other three cities. An analysis of over two million guests that visited these cities suggests that the effect of the website redesign policy was negatively correlated with the share of guests originating in the United States.

JEL Classification: J15 . D90 . J70 .

1   Introduction

Recent studies have documented the widespread prevalence of racial discrimination on the online sharing economy platforms. In the case of Airbnb, for example, studies have found that non-black hosts receive significantly higher prices than black hosts for comparable properties (Edelman and Luca, 2014; Laouenan and Rathelot, 2017). In addition, personal encounters with racial discrimination were widely circulated on social media platforms (e.g., twitter's hashtag #AirbnbWhileBlack). In light of this evidence, the sharing economy platforms have started to acknowledge the prevalence of racial discrimination and express their conviction to address it.[1].

When it comes to corrective measures, however, we know little about what strategies can mitigate racial discrimination on these newly evolving platforms. This paper contributes to the literature by evaluating whether the salience of racial identity can reduce racial discrimination. I specifically evaluate a recent website redesign policy of Airbnb that delayed the exposure of guests to hosts' profile photos.[2] Airbnb's intention behind redesigning its website was to induce guests to pay more attention to non-race related attributes such as price, past ratings, property photos, etc. The main focus of this paper is to evaluate if this policy was able to mitigate racial discrimination by guests against hosts.

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[1]Airbnb CEO Brian Chesky, for example, finally conceded that "bias and discrimination have no place on Airbnb, and we have zero tolerance for them. Unfortunately, we have been slow to address these problems."http://time.com/4484113/airbnb-ceo-brian-chesky-anti-discrimination-racism/

[2]As shown in Figure 1, Host photos were removed from the initial search screen, but guests were able to see these photos later, after they clicked on specific properties from search results.

In the absence of any systematic analysis, it is by no means easy to argue beforehand whether the website-redesign policy will have any impact on the choices made by Airbnb guests. For guests who perceive zero search cost of time, delaying exposure to host photos will have little effect because the photos still remain available. On the other hand, alternative models might predict a positive impact of the salience of racial identity. For example, guests with statistical discrimination and prohibitively high search-cost of time might change their behavior. Such guests might have overlooked certain hosts and been unwilling to update their priors by visiting hosts' detailed profiles before the policy change. Relocating the host photo to the detailed profile page might expose such guests to the previously overlooked information that now influences them to choose differently.

I attempt to mediate between these competing hypotheses by evaluating the differential impact of the website redesign policy on Airbnb hosts. I use publicly available information of hosts belonging to the following four U.S. cities: New York City, Chicago, New Orleans, and Detroit. I evaluate the impact of the policy using a difference-in-difference type of setting, where the outcome variable of interest is bookings (i.e., number of days booked in a week), and the coefficient of interest captures the change in the outcome for black hosts in comparison to white hosts. In evaluating the impact of the policy, I find evidence of a reduction in the racial bookings gap among New York City hosts. In particular, I find evidence that the black-white difference in logged average bookings reduced by about 0.09 units. This finding suggests that the black-white ratio of average bookings increased from about 0.71 to 0.79, which is closer to the non-discrimination proportion of 1. The reduction in racial gap is robust to comparing black hosts with white hosts, non-black hosts from all races, and hosts whose profile photos did not show their face. The reduction in racial gap was greater for male hosts and hosts that listed a shared apartment unit (as against entire apartment unit). While the effect is large and statistically significant in NYC, it is less so in the other three cities. An analysis of over two million guests that visited these cities suggests that the effect of the website redesign policy was negatively correlated with the share of guests originating in the US.

The findings from this study contribute to at least three broad areas of research. First, in relation to racial discrimination on online sharing economy platforms, recent studies have found the evidence of racial discrimination by Airbnb guests against hosts (Edelman and Luca, 2014; Laouenan and Rathelot, 2017) and Airbnb hosts against guests (Edelman et al., 2017; Cui et al., 2016). In

light of these findings, Airbnb redesigned its website. This paper takes a step forward from the documentation of racial discrimination to the evaluation of anti-discrimination strategies: it evaluates the website redesign policy's impact on racial discrimination by guests against hosts.

Second, this study also contributes to the literature that evaluates the effect of salience on behavior. There is compelling evidence from the salience literature that customers can alter their choices when the prominence of same underlying information is altered (e.g., Chetty et al., 2009; Brown et al., 2010). Goldin and Rouse (2000) found that altering gender salience via blind auditions increased the advancement and hiring probability of female candidates. My study adds to this literature by evaluating the impact of altering race salience via delayed exposure to host photos on racial discrimination by guests against hosts.

Finally, this study also relates to literature that explores the design choices faced by online marketplaces. Past studies have examined both the positive role of increasing the information flow within a platform (Bolton et al., 2013; Dai et al., 2014) and the negative outcomes when these platforms provide extraneous information (Edelman et al., 2017). Studies have also noted that a suitably designed online platform could mitigate discrimination that was observed during face-to-face interactions (e.g., Ayres and Siegelman, 1995; Morton et al., 2003). However, what constitutes a suitable interface design may vary across online platforms. For example, Amazon and eBay have opted to anonymize their users. On the other hand, Airbnb maintains that profile photos help hosts and guests get to know one another and can serve as an important security feature. The current study contributes to this literature by evaluating the impact of a website design with less salient race-identifying characteristics on racial discrimination.
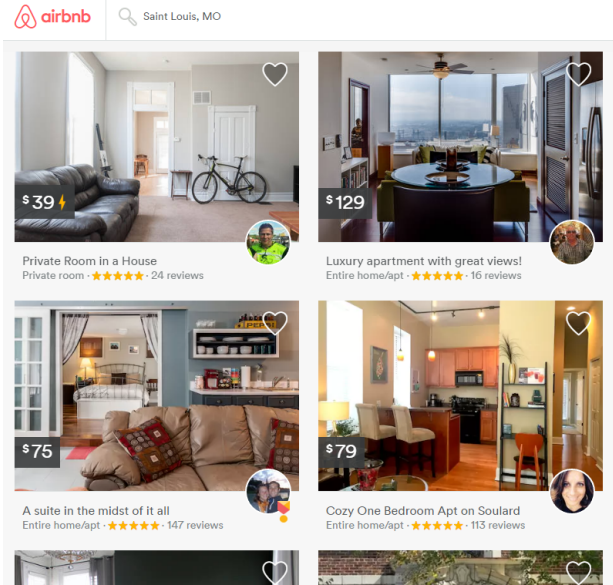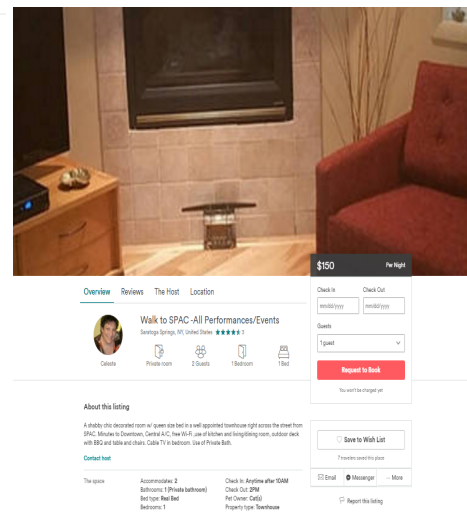
(a) Search Results Before Change
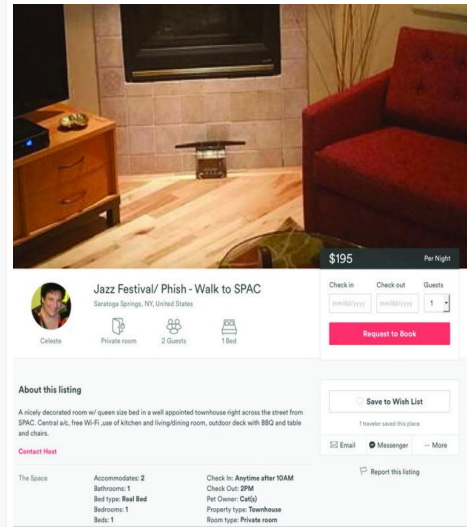
(b) Details Before Change
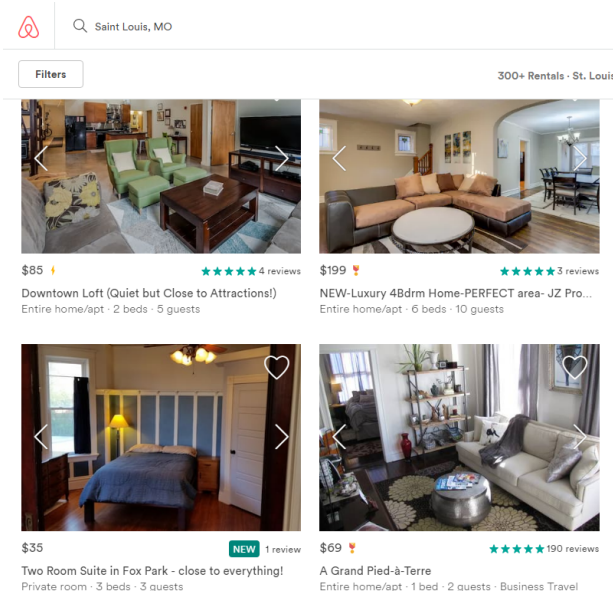
(c) Search Results After Change

(d) Details After Change

Figure 1: Airbnb Prominence Policy

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